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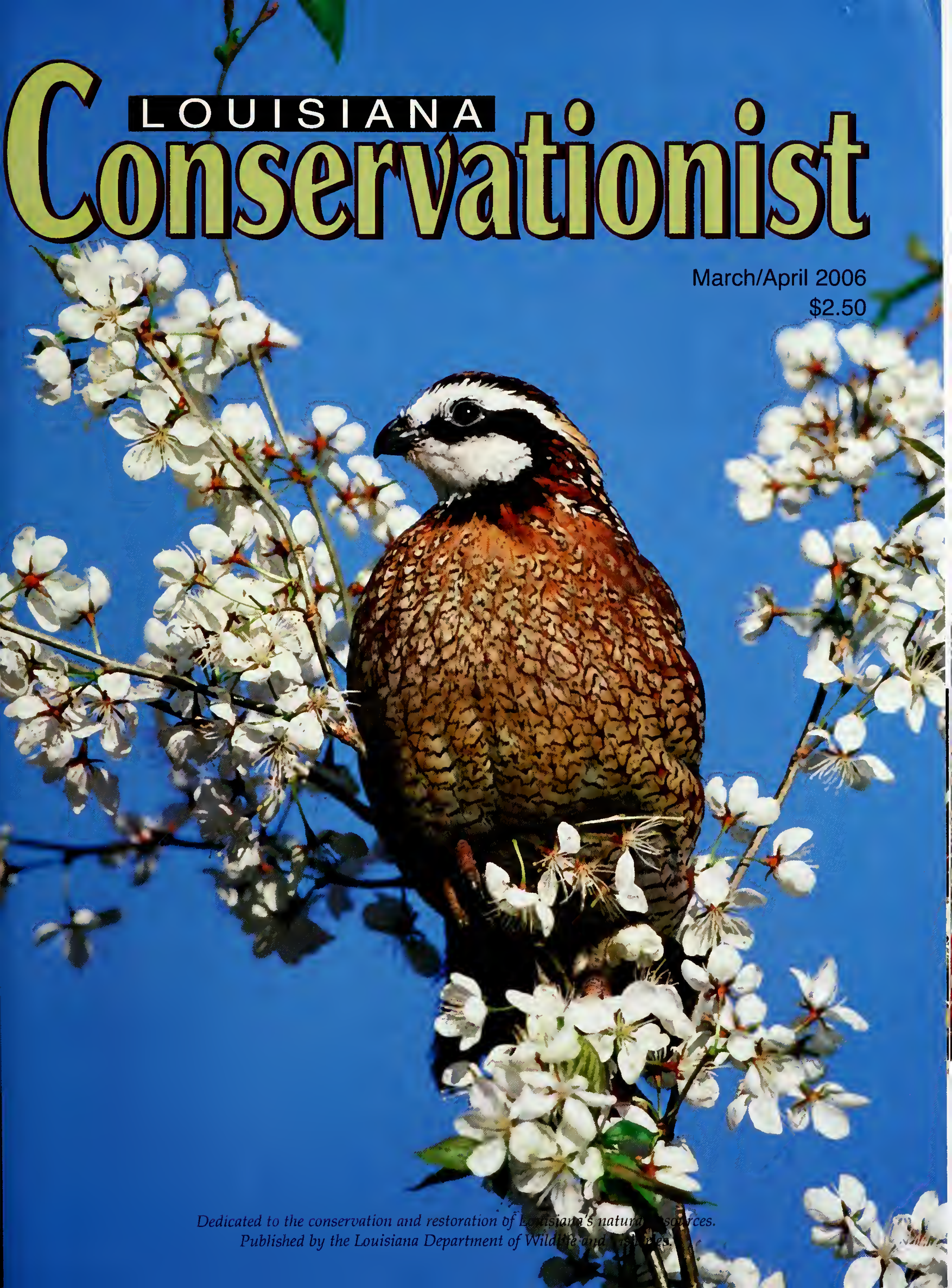

Dedicated to the conservation and restoration of Louisiana's natural resources.
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Comments

Dwight Landreneau, Secretary

Six months removed from hurricanes Katrina and Rita, the recovery efforts continue for citizens, businesses and state government.

Like many businesses, the Louisiana Department of Wildlife and Fisheries (LDWF) is working to re-establish office space in Orleans, Plaquemines or Jefferson parish.

In the field, LDWF enforcement agents and fisheries biologists face many of the same infrastructure issues that hinder the commercial and recreational fishing industries and the general public. Along the coast, and within parishes most severely impacted by the storms, launch sites are in varying stages of disrepair, and debris in waterways still makes navigation a challenge.

As part of Governor Blanco's unified effort to rebuild storm-damaged areas, the department will continue to work with the Louisiana Recovery Authority to keep these issues on the active list of items needing attention.

Where there is opportunity to expedite recovery efforts, LDWF will take action. In December, staff from the Office of Wildlife moved equipment into place via barge on the West Pearl River and cleared debris that was re-routing the flow of the river through the Pearl River Wildlife Management Area. The project re-established navigation on the river's main channel and additionally restored a critical drainage artery in southeast St. Tammany Parish.

Also in December, the Office of Fisheries was able to obtain federal approval to reprogram funding for much-needed water bottom assessments in the aftermath of Katrina and Rita. The funds, originally appropriated by Congress to address damage done by Hurricane Ivan, were received as part of a Louisiana Oyster Resource Improvement Project Grant. St. Bernard and Plaquemines parishes received up to $600,000 each to administer the assessment project and hire resident oyster harvesters to perform the field assessment work. That work, accomplished with funding from the National Oceanic and Atmospheric Administration (NOAA), will determine where reef reconstruction is needed due to the effects of Katrina and Rita.

The NOAA grant funding thus provided commercial fishermen with much-needed income in the recovery phase of post-storm activity. Additionally, the department now has data to direct a course of action for replenishing a valuable natural resource.

Funding assistance for coastal restoration work is also being provided by non-governmental entities such as Ducks Unlimited (DU). DU has pledged $15 million toward the Louisiana Coastal Initiative to help restore the state's coastal marshes. Their goal for the funding is to restore or enhance 52,000 acres along the coast by 2008. A recently completed wetland restoration within the Pointe-aux-Chenes Wildlife Management Area in Terrebonne Parish was the first of these cooperative projects. Begun before last season's storms, the newly dedicated Ensminger-Songe Wetlands Unit established hydrologic control on 4,736 acres of marsh that had been previously decimated by saltwater intrusion.

On another positive note, encouraging signs were evident for sportsmen and women who were able to enjoy the 2005-06 hunting season. In parishes where habitat had not been adversely affected by the hurricanes, hunters saw ducks in greater numbers than in any recent season. Northern climatic conditions were ideal to push ducks further south in the flyway and convince many that duck hunting in this state can still provide the excitement it once did. It was another reminder that weather patterns and the forces of nature dictate much of what we call life in Louisiana.

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LOUISIANA Conservationist

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By John R. Ford

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By John R. Ford

Published by the Department of Wildlife and Fisheries in the interest of conservation of Louisiana natural resources.

For the Birds

The Louisiana Quail and Grassland Bird Task Force

Story by
***Fred* KIMMEL**

It might have been difficult for a quail hunter 30 years ago to imagine the state of quail hunting in Louisiana today. Quail hunting articles commonly appeared in *Louisiana Conservationist* throughout the 1970s. In fact, several of these articles declared that despite a drop in quail numbers, the population had stabilized, and good hunting could be expected for the foreseeable future. Yet in 2006, to many hunters quail hunting is little more than memories of long-ago trips and bird dogs long passed.

Photo by John and Karen Hollingsworth/USFWS

Photo by John R. Ford

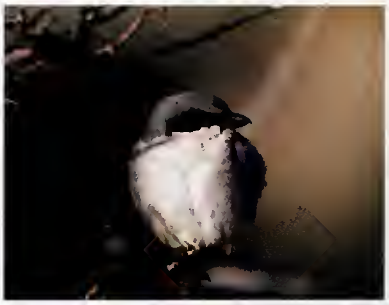


Photo by Dave Menke/USFWS

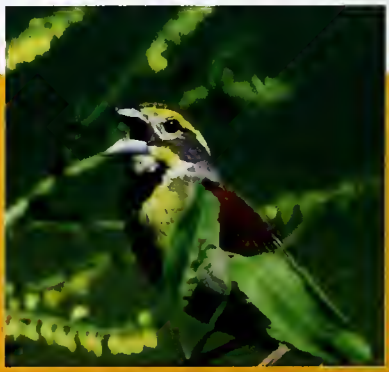


Photo by Steve Maslowki/USFWS

Besides the bobwhite quail (middle), other grassland birds, such as the Eastern meadowlark (left), shrike (top right) and the dickcissel (bottom right), will benefit from the Louisiana Quail and Grassland Bird Task Force's efforts to restore habitat.

Data from the U. S. Geological Survey's annual Breeding Bird Survey (BBS) indicate that Louisiana's bobwhite quail population has declined by about 85 percent (5.3 percent per year) since 1966. (See graph on page 6.) The downward trend was minimal from 1966 through 1979 (1.6 percent per year) but accelerated during the period of 1980 through 2003 (6.2 percent per year). As would be expected, Louisiana's quail hunters have declined as well. In 1972, there were about 37,000 quail hunters in Louisiana. By 2004, only 2,000 people hunted quail.

Theories to explain the decline in bobwhite populations abound. Fire ants and predators are the most commonly heard explanations. While there may be an element of truth in both of these explanations, evidence points to a much broader and more serious problem. An important clue lies in the population trends of other birds that use similar habitat as bobwhites. Many of these species of birds are exhibiting long-term downward population trends that are very similar to bobwhites. (See graph on page 6.) It is important to note that many of these declining species are not ground nesters like bobwhites, and therefore are less subject to predation by fire ants and other nest predators.

The common link among all these declining species is their need for grassland or shrubby habitat that contains a diversity of grasses, herbaceous "weeds" and wildflowers. This type of habitat was once found throughout Louisiana in pine forests, agricultural areas and pasture and grazing land. While we have an abundance of these land-use types, a close look at the habitat within each of these types reveals that significant changes have occurred. Most biologists have concluded that these habitat changes are the primary reason populations of bobwhites and other grassland birds are declining.

Photo by Fred Kimmel

Intensively grazed pasture with introduced grasses offer little habitat for quail and other grassland birds.

In agricultural landscapes most of the changes are obvious. For one, field size has increased. Also, vegetation in field borders, ditches and along roads is either sprayed with herbicides or frequently mowed. Land within the agricultural landscape that is not farmed is often densely forested, so even areas that are not farmed offer little habitat for grassland birds.

The changes that have occurred in pasture and grazing land are more subtle than those on farmland. Non-native grasses such as bahia and Bermuda have replaced native grasses in most pastures and hayfields. On the surface, these areas may appear to provide good habitat. However, unlike our native grasses that grow in clumps, bahia and Bermuda grass form a dense sod. This sod inhibits the growth of desirable seed-producing plants. Additionally, this sod acts as a physical barrier that actually inhibits movement of bobwhites (particularly young birds) and makes it very difficult for the birds to utilize the little food that may be available.

Intense grazing is another common occurrence. Cattle are now grazed on smaller plots of land and the vegetation is usually grazed to a very low level, leaving little or no habitat for bobwhites or other grassland birds.

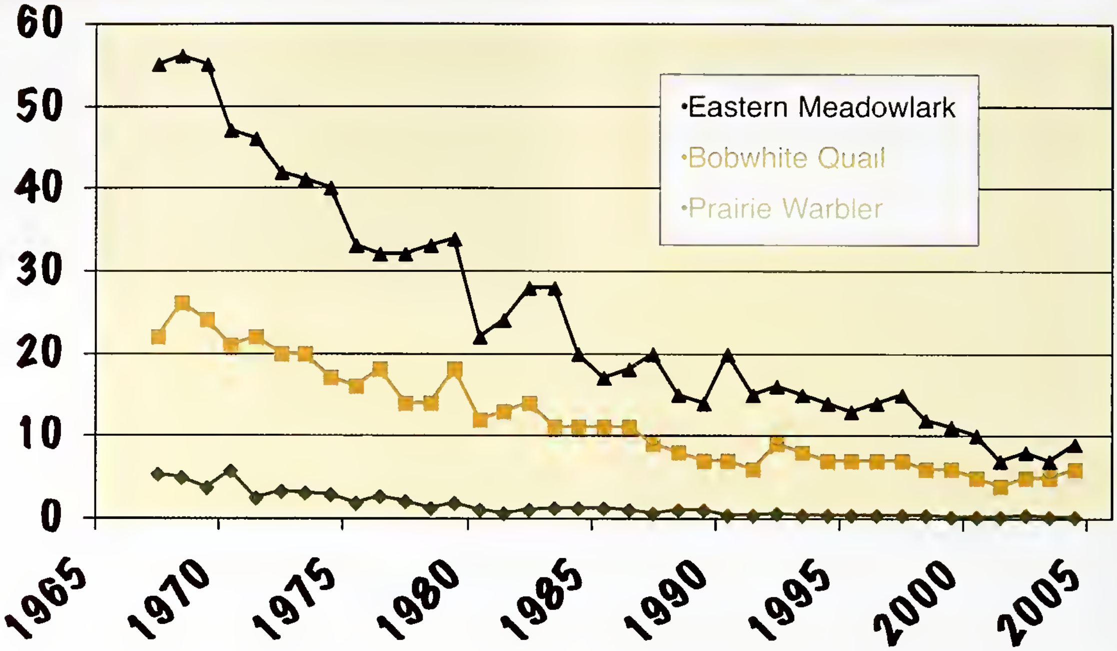
Forest lands can provide excellent habitat for grassland birds and, during the last two to three decades, served as the pri-

LDWF File Photo

Lack of cover is the key factor in declining quail populations on farmland.

Species on the Decline

With data taken from the U.S. Geological Survey's annual Breeding Bird Survey, the graph at right illustrates the disturbing downward trend of quail and other grassland bird populations in the U.S.



mary habitat for bobwhites in Louisiana. In order for grassland birds to prosper in forested habitats, sufficient sunlight must penetrate the forest canopy so that grassy, herbaceous ground cover can develop. In addition, there must be some type of periodic disturbance, such as prescribed burning, to maintain this herbaceous habitat.

Intensive pine management practices that feature short rotations, densely stocked stands, fast growing seedlings and use of wide spectrum herbicides have reduced the opportunity for development of herbaceous ground cover. In addition, the use of prescribed burning has declined significantly in recent years. Consequently, most pine stands no longer contain the herbaceous ground cover needed by grassland birds.

While the changes that have occurred in agricultural land, grazing and pasture land, and forest land seem very different, they are alike in one important way. All of these changes have reduced ecological diversity by replacing complex habitats characterized by a diverse mix of plants and structure, with simplified habitats that lack the diversity bobwhites and grassland birds require.

The changes that have reduced bobwhite and grassland bird habitat are not limited to Louisiana. What we have observed in Louisiana in regard to bobwhite and grassland bird populations and their habitat has occurred throughout the southeastern and midwestern United States. Nationally, bobwhite populations have declined by an average of 3 percent per year since 1966, and 4 percent per year since 1980. Similarly, 24 of 28 species of grassland breeding birds have exhibited long-term declining trends.

In response to declining bobwhite populations, the directors of wildlife agencies throughout the Southeast charged the Southeast Quail Study Group Technical Committee to develop a recovery plan for bobwhites in the Southeast. In March 2002, the Northern Bobwhite Conservation Initiative (NBCI) was completed. This plan established specific habitat goals for various ecoregions in the range of the bobwhite. The goal of the plan is to restore bobwhites to their 1980 population levels on remaining habitat by 2027. A key element to the NBCI is the recognition that the

Habitat changes in agricultural, grazing and forest lands have eliminated shrubby grassland habitat that bobwhites and other grassland birds require.

Photo by Mike Olinde

haphazard "shotgun" approach of the past, which often consisted of a few food plots among pockets of widely scattered habitat, will not work. Rather, a coordinated effort that restores habitat across the landscape is needed.

The ambitious goal of the NBCI requires improving habitat on 81.1 million acres of land across the range of the bobwhite. However, the primary land use would change on only about 7 percent of this acreage. Most (78 percent) of the projected population increase will come from farm, grazing and pasture land. The remaining increase will come from forest land.

Many of the tools needed to reach the goals of the NBCI are already available. Conservation provisions of the 2002 Farm Bill will play an important role in shaping and improving habitat. USDA programs such as the Conservation Reserve Program (CRP), Grassland Reserve Program (GRP), Environmental Quality Incentives Program (EQIP) and Wildlife Habitat Incentives Program (WHIP) provide critical tools to impact a significant amount of habitat. The new Habitat Buffers for Upland Birds practice (see sidebar on page 8) of the CRP is perhaps the most important development in recent years.

The NBCI has already served an important function by bringing attention to the plight of bobwhites and making it a conservation priority. Several states have formed committees to coordinate bobwhite recovery efforts within their states. In May 2005, the Louisiana Department of Wildlife and Fisheries formed the Louisiana Quail and Grassland Bird Task Force (QGBTF). The Louisiana QGBTF was formed to develop and implement the NBCI in Louisiana, and currently is comprised of representatives of 19 organizations and agencies.

Photo by Mike Olinde

Prescribed burning is essential for maintaining quail and grassland bird habitat in pinelands.

An important component of Louisiana's effort is the inclusion of grassland birds and a focus on their habitat. (Note: for purposes of the Louisiana QGBTF, birds in the grassland and shrub or scrub guilds are considered grassland birds.) Bobwhites and many of the grassland birds occupy the same habitat, so what benefits bobwhites will also help Eastern meadowlarks, dickcissels, prairie warblers and other species of grassland birds. The problems facing bobwhites are too great for Louisiana's quail hunters alone to solve. This effort to restore habitat for all grassland birds will help build support and increase the opportunity for partnerships.

The Louisiana QGBTF has hit the ground running. Members and their agencies and organizations have already been involved in a number of projects: promoting the CRP Habitat Buffers for Upland Birds practice; establishment of native grass demonstration areas; organizing longleaf pine workshops for landowners; and the acquisition of specialized equipment needed by Louisiana landowners for planting native grasses and forbs.

Photo by Fred Kimmel

Lack of prescribed burning results in a dense understory and provides poor habitat for quail and grassland birds.

One of the most important activities the Louisiana QGBTF will undertake is the development of a recovery plan for bobwhites and grassland birds in the state. This plan will provide direction to the Louisiana QGBTF and other organizations by identifying problems, providing solutions, setting priorities and establishing goals. It is anticipated that the recovery plan will lay the groundwork for restoring diversity by addressing issues such as prescribed burning, incorporating the use of native

Quail and other grassland birds will benefit from the habitat restoration projects underway through the Louisiana Quail and Grassland Bird Task Force.

Photo by Joe Neal

grasses and forbs in grazing, pasture and farming operations and establishment of longleaf pine on appropriate sites.

For most of our history, habitat for bobwhites and grassland birds was created and maintained by accident. In pre-settlement times, it was a by-product of natural disturbances such as fire. Later, habitat was inadvertently created and maintained by man's fires, farming, logging and livestock management activities. As practiced today, our land management activities no longer provide the habitat to support desired populations of bobwhites and grassland birds.

Restoring bobwhite quail and grassland bird populations will be a long-term effort and one of the greatest challenges the conservation community has faced. To meet this challenge, a coordinated long-term cooperative effort that involves conservationists, agricultural producers and forest landowners is needed. The Louisiana QGBTF will be working to lead this effort to develop and maintain the type of habitat we once took for granted.

Fred Kimmel is the Upland Game Program Leader for LDWF. He has been with the department for 19 years.

Photo by Fred Kimmel

Habitat Buffers for Upland Birds (CP-33)

It has long been recognized that just a little cover adjacent to cultivated fields can have a big impact on wildlife, particularly bobwhite quail. Lack of nesting, brood rearing and escape cover are often the factors that limit bobwhite populations on modern farms. Strips of cover along the edges of fields can provide this much needed habitat component.

In 2004, the USDA announced a new practice known as Habitat Buffers for Upland Birds (CP-33) within the Conservation Reserve Program (CRP) that provides payments to landowners who establish 30 to 120-foot wide buffers around cultivated fields. In order to qualify for this practice, the cropland must be suitably located and adaptable to the establishment of bobwhite quail habitat. In addition, the applicant must satisfy the cropping history criteria of the Conservation Reserve Program.

This practice is attractive to producers because in exchange for placing what are often the least productive portions of a field into buffers, the producer receives consistent and dependable income. Applicants accepted into the program are eligible for a signing incentive payment, a practice cost-share payment, a practice incentive payment and annual rental payments.

In order to achieve the greatest benefit for wildlife, buffers are usually planted in a mixture of native grasses and forbs. Landowners accepted into the program are provided several buffer establishment and management options from which to choose.

For further information, contact your local USDA Farm Services Agency office, USDA Natural Resources Conservation Service office, or the LDWF Upland Game Section at 225/765-2355. This is a continuous sign-up practice so there is no need to wait for an announced CRP sign-up to apply. Louisiana has been allocated 8,900 acres for enrollment, and offers will be automatically accepted provided all eligibility requirements are fulfilled until the enrollment cap is met, or until Dec. 31, 2007.

Photo by Joe Mac Hudspeth Jr.

When less is MORE

Story by
***David* MORELAND**
***and Chris* CLAYTON**

Using Antler Restrictions for Quality Deer Management

During the 1960-61 deer season there was a limit of two antlered bucks. Today, the season limit for deer is six, of which all six could be antlered bucks. Today's hunters are asking the department to improve the quality of deer in Louisiana by increasing the number of older bucks in the population. Biologists are suggesting that the best tool to accomplish this objective in the state is a reduced buck limit, similar to those limits in past years.

Tri-parish Six-point Study

LDWF biologists believe that the establishment of an antlered buck limit (rather than a statewide antler regulation) would be the best method for producing older bucks in the state.

Tri-parish Six Point Study

The Louisiana Wildlife and Fisheries Commission (LWFC) established a three-year experimental deer management program in the parishes of Iberville, Pointe Coupee and West Baton Rouge. The purpose of this experiment was to investigate the effects of mandatory antler regulations on the deer herds in these three parishes. The experiment was initiated in 2002 and ended in 2004.

Antler regulations have been used for several years in the surrounding states of Arkansas and Mississippi. Texas initiated a study the same year as Louisiana. Utilizing antler regulations to regulate or control the buck harvest is often referred to as Quality Deer Management (QDM). However, QDM is a total deer management philosophy that involves not only antler restrictions to regulate the buck harvest, but also habitat management and control of deer numbers through either-sex hunting. Regulation or control of the antlered buck harvest is just one component of a deer management program that emphasizes QDM.

Before the Louisiana study began, some regulations were established: first, bucks with six or more points (1 inch long or longer) and bucks with spikes less than 3 inches could be legally harvested. Second, bucks with one or more spikes longer than 3 inches or bucks having antlers with three, four or five points could not be harvested.

Photo by David Moreland

The study was designed to protect the younger bucks having good growth and development potential while allowing harvest of the low end younger bucks (those with low body weights and poor antler development). Studies by John D. Newsom at Louisiana State University (LSU) have demonstrated that 1 1/2-year-old bucks on good habitat and on habitat where deer numbers are kept in balance with the habitat by regular either-sex harvests produce branched antlers. The study design did protect adult bucks with fewer than six points and those with large spikes.

The study had two major objectives: one, to reduce the harvest of yearling bucks; and two, to increase the adult buck harvest, especially in the 2 and 3-year old buck age classes.

Photo by David Moreland

The experiment met with limited success. The mandatory antler restrictions did reduce the 1-year-old buck harvest in the three parishes. This reduction did not result in a harvest increase in the 2 and 3-year-old age classes as was anticipated. There was an increased harvest of mature adult bucks, 4 years and older. This increased harvest of mature adult bucks does not necessarily mean there were more bucks available for harvest in these age classes as a result of the antler restrictions. These mature bucks, in fact, were born prior to 2002, the first year of the experiment. This increased harvest of mature bucks is a product of hunter effort; hunters had to wait and select a legal buck rather than shoot the first buck that stepped out. The physical condition of harvested deer in the adult age classes remained unchanged from what it was prior to the experiment.

Michaud Swamp QDM Cooperative

The study supports the idea that a reduction in the buck limit would be a better approach for deer management in Louisiana, rather than implementing statewide antler restrictions. Other management factors, such as soil quality, forest type and overall herd conditions, must be taken into account. Antler restriction programs are just one part of the deer management equation. The department is addressing total deer management through technical assistance to landowners and hunting clubs involved with DMAP (Deer Management Assistance Program) and LADT (Landowner Antlerless Deer Tag). The tagging program the department hopes to establish in Louisiana will provide the means to reduce the antlered buck limit.

An example of a total deer management program that incorporates habitat management, either-sex harvest and selected buck harvest is the Michaud Swamp QDM Cooperative. Chris Clayton is the wildlife biologist for Roy O. Martin Lumber Company (ROM). ROM is a family-owned timber company that owns over 600,000 acres of forestland in Louisiana. The Louisiana Department of Wildlife and Fisheries (LDWF) has a lease with ROM for 16,000 acres within the West Bay Wildlife Management Area (WMA), which is an important WMA in southwest Louisiana. There are over 1,300 hunting clubs in Louisiana that lease from ROM.

ROM is a strong supporter of the Quality Deer Management philosophy. Read on as Chris explains how a total deer management program was established on ROM land in St. Landry Parish.

The Michaud Swamp QDM Cooperative

What do you have when you take nearly 10,000 acres of contiguous bottomland hardwoods in the floodplain of the Atchafalaya River and break it into nine different hunting clubs? *Answer:* First, you have **potential**. Secondly, you have even more **potential**...if changes in deer hunting philosophy can prevail.

The Michaud Swamp Hunting Club in St. Landry Parish was one of Roy O. Martin Lumber Company's first lessees, dating back to the early 1960s. Many sociological, economical and biological changes have occurred since the club was formed more than 40 years ago. The one thing that remained constant through the decades was the club's traditional deer management philosophy. I began working with this club shortly after being hired by ROM in 2001.

I received a phone call during the summer of 2001 from Tony Vidrine and Larry Savage, both wildlife biologists with LDWF. They received several complaints from soybean farmers in the area about crop damage from the local deer. Tony, Larry and I conducted a deer browse survey and inspected the agricultural fields. The results of the browse survey revealed an extremely dense deer herd. The farmers had a legitimate complaint regarding their crop damage, and our forest regeneration was also suffering severely. It became very evident to me what decades of traditional deer management can lead to. It was also evident that something had to be done to bring the deer herd in balance with their habitat.

Enter Quality Deer Management. We contacted the hunting club to inform them

Photo by David Moreland

Antler regulations protect young deer like this 1 1/2-year-old spike.

Photo by David Moreland

Harvest of antlerless deer must be done annually for proper management of a deer herd.

of the problem. We strongly recommended that they increase their antlerless deer harvest dramatically to reduce the deer population, which would in turn reduce the timber and agricultural crop damage. Educating such a large traditional deer management hunting club about the benefits of Quality Deer Management is not a one-time effort. I scheduled a meeting to discuss QDM with the members of the Michaud Swamp Hunting Club shortly after the deer browse survey was conducted in 2001. I asked the members how many deer are harvested each year. After a long silence, it became apparent that no one knew, because for decades they did not keep harvest records. This was one of the first obstacles to overcome. I outlined all facets of Quality Deer Management and contrasted it to their traditional deer management philosophy. After several hours of lively discussion, I felt I had pleaded a solid case.

Quality Deer Management

Starting in the deer season of 2001, hunting clubs that enrolled in Roy O. Martin Lumber Company's Quality Deer Management Program were required to keep detailed harvest data, which includes turning in jawbones from all deer harvested. As was expected the first year, some clubs struggled with keeping accurate data. Also expected was that large clubs with many members, such as Michaud Swamp, would have trouble accounting for all deer harvested. This was evidenced by the fact that Michaud Swamp Hunting Club reported harvesting only 71 deer (30 bucks and 41 does) on the entire 10,000 acres for the 2001-2002 hunting season. Nearly 40 percent of their reported buck harvest was comprised of yearlings. While the average number of points of the yearling bucks was four, the average body weight was 124 pounds, which is fairly low for that geographic area and indicative of an over-populated deer herd. Their reported doe harvest also indicated problems with lactation rates and low body weights, not to mention they only harvested one doe per 250 acres. Unfortunately, the Michaud Swamp Hunting Club was dissolved after the 2001-2002 hunting season.

The newly available land was quickly leased by nine different hunting clubs in 2002, some of which were comprised of previous members of the Michaud Swamp Hunting Club. Some of the clubs were on a point restriction, some were on a point-spread restriction and one followed a point-main beam length restriction. After several discussions with the different hunting clubs at the end of the 2002-2003 hunting season, it became apparent that the formation of a QDM cooperative would be beneficial for all involved.

I scheduled a meeting with the nine clubs in the summer of 2003. Each club had at

Photo by David Moreland

DMAP and LADT

The Deer Management Assistance Program (DMAP) and Landowner Antlerless Deer Tag (LADT) are two programs available to hunting clubs and private landowners to help facilitate the harvest of deer.

Individuals interested in these programs should contact their local LDWF Regional Wildlife Office or call Emile LeBlanc, DMAP Biologist, at 225/765-2344.

least one representative present, and each club had one vote on how the area should proceed in QDM. The majority ruled in favor of a true QDM program and the Michaud Swamp QDM Cooperative was formed. Everyone left the meeting with a sense of anticipation.

The 2003-2004 hunting season, the first year of the cooperative, was a success, but there was still work to be done. Yearling buck harvest was under 20 percent, and the majority of these were spikes that were shot for does. Thirty percent of the buck harvest was comprised of 3 1/2-year-old and older bucks. A total of 111 does were killed for a harvest rate of one doe per 84 acres. The deer browse survey conducted early in 2004 revealed more browse species present and less browsing per transect. Hunter success and harvest data indicate a positive impact from the first year of the QDM cooperative program. People who have hunted this area all their lives noted that for the first time in many years they actually saw scrapes and bucks chasing does during the rut.

The 2004-2005 hunting season also proved to be a success, with 2 1/2 times more bucks being harvested than the previous year. Forty-one percent of the bucks harvested were 3 1/2 years old and older. A total of 107 does were harvested, which equates to one doe harvested per 87 acres.

Overall, the average weights of both bucks and does are on the rise. Hunter attitude and hunter satisfaction have also improved considerably compared to just a few years ago. Quality Deer Management is not just about producing quality deer and quality habitat; it is also about producing quality hunting experiences. The Michaud Swamp QDM program is a good example of how a **total deer management program** can work.

Formerly the state's Deer Study Leader, David Moreland now serves as the Wildlife Administrator for LDWF. He has been with the department since 1976 and is a frequent contributor to Louisiana Conservationist. His new deer publication "Checklist of Woody and Herbaceous Deer Food Plants of Louisiana" will be available this year from the department.

As the wildlife biologist for Roy O. Martin Lumber Company, Chris Clayton manages the game and non-game species on approximately 600,000 acres of timberland and is responsible for the company's hunting lease program, currently leasing property to nearly 1,200 hunting clubs throughout the state. Chris enjoys hunting, fishing and spending time with his wife and daughter.

Photo by David Moreland

Chris Clayton and LDWF biologists document deer browse availability and utilization on ROM property. Browse surveys are a good index for deer densities.

South Louisiana's
CANAL CRAPPIE

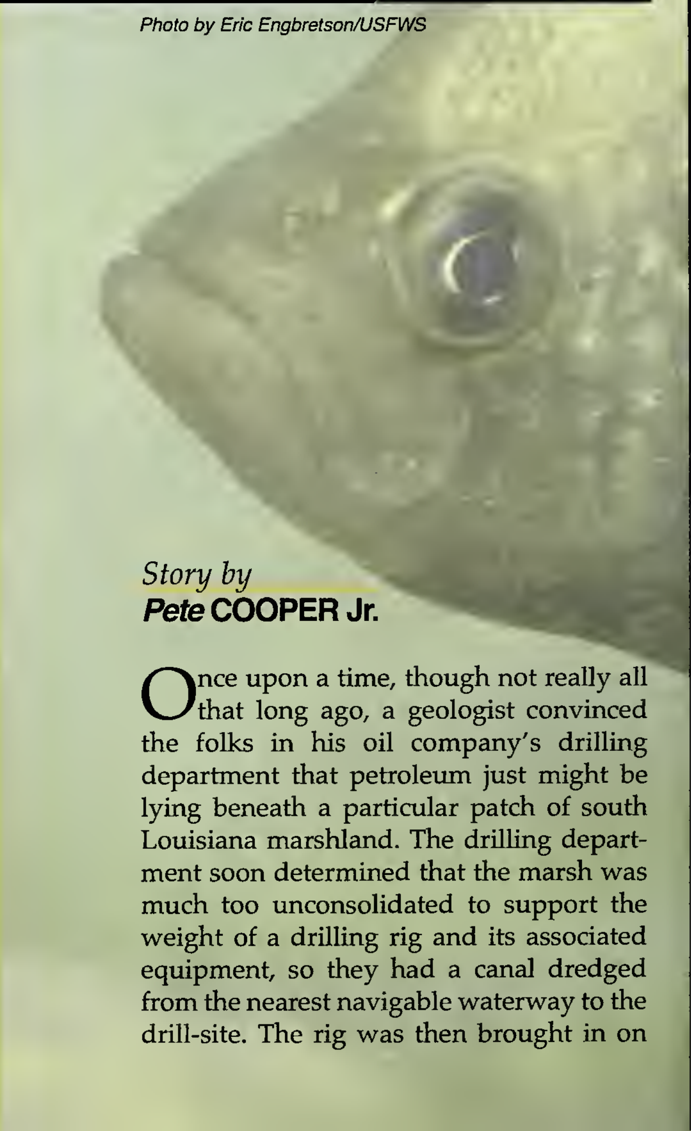


Photo by Eric Engbretson/USFWS

As the state fish of Louisiana, crappie abound in the numerous waterways left by dredging operations. Fishing for both black and white crappie means good fun and great eating.

Story by
***Pete* COOPER Jr.**

Once upon a time, though not really all that long ago, a geologist convinced the folks in his oil company's drilling department that petroleum just might be lying beneath a particular patch of south Louisiana marshland. The drilling department soon determined that the marsh was much too unconsolidated to support the weight of a drilling rig and its associated equipment, so they had a canal dredged from the nearest navigable waterway to the drill-site. The rig was then brought in on barges, the well was drilled, oil was discovered and thus began a practice that was to become common across Louisiana's coastal marshes for nearly half a century.

Once oil has been found in an area like this and several wells have been drilled into the reservoir to produce it, it is pumped through small-diameter pipelines to a processing facility. There, any associated water and gas are separated from the oil. The water is pumped back into the ground, the gas is sent down a large-diameter pipeline to a gas plant, and the oil is pumped down another large-diameter pipeline to the nearest shipping center or refinery. Those large-diameter pipelines, unlike the smaller ones, required barge-mounted equipment to create and lay them through the marshes, so canals had to be dredged for that purpose, too. Thus, two different types of oil-field canals are quite common in this area. Those which are found in marshes with low salinity levels can hold astonishing numbers of both black and white crappie, along with other popular freshwater species.

Drill-site or "location" canals are typically the easiest to access. However, they are also commonly beset with some pretty grungy water. That is because the "nearest navigable waterway" in low-salinity areas is often a river. At times those are subject to turbidity which affects the canal similarly. Almost invariably the clearest water in a location canal will be near its terminus—the point where the well was drilled.

On the other hand, pipeline canals can be comparably clear through their length. This is a fringe benefit of building wooden bulkheads, or "dams," across them. This practice isolates the natural bayous, ponds and such that the canal intersected in fresher areas, from high-salinity waters it may have traversed nearer to the gulf. These days it is common to find a bulkhead washed out on one bank or the other, allowing access into the canal. The same goes with a cut through the canal's bank which was caused by subsidence and erosion.

Photo by Pete Cooper Jr.

Any obvious structure will hold crappie, but one of the most consistently productive is the edge of the canal's drop-off.

Crappie are not nearly as tolerant of salinity as other local freshwater types. Therefore it is imperative that crappie-fishing is done in a canal that is fresh enough to support them. A good guideline is to look for willows and elephant ears growing along the canal's shoreline. Other types of vegetation can also be found there and in saltier canals, but those two don't lie!

Once a prospective canal has been located, look for some form of fish-attracting structure. Generally, the most common forms will be beds of submergent vegetation, flooded trees, stumps and blowdowns, small docking facilities, wells and their protective cribbing and, in pipeline canals, small "riser" platforms.

The choicest of these structures are usually found just outside the shoreline drop-off. These may still be abrupt and quite

Known as perch and papermouth in other places, crappie are commonly referred to as "sac-a-lait" in Louisiana from the Cajun French. As members of the sunfish family, both black crappie (*Pomoxis nigromaculatus*) and white crappie (*Pomoxis annularis*) are similar, but they are easy to distinguish if you learn a few simple guidelines. For tips on identification, visit our Web site at *www.wlf.louisiana.gov*.

near their original positions relative to the banks, especially in pipeline canals where boat traffic has been minimal. Conversely, in location canals boat wakes may have eroded the shorelines some distance from their drop-offs, leaving a fairly broad, sloping shelf between the present bank and the drop-off.

Throughout much of the year crappie can be found suspended just outside of a canal's shoreline drop-off; any "structure" inside that point may look promising but seldom holds these fish. The key is to locate the point where the shelf abruptly falls off into the canal's depths. This is easily done by fishing with a two-inch cylindrical float positioned about two feet above a 1/32-ounce jighead—the type of enticer affixed to it to be discussed later. In water which is not as deep as that setting, the float will be unaffected by the jig's weight. However, once the jig reaches the deeper water just beyond the lip of the drop-off, it will come off the bottom, and its weight will cause the float to sit more vertically. Structure of any type found just outside that point is prime.

Bulkheads themselves can also hold crappie. In many cases they are reinforced on both ends with piles of clam shells. Those usually slope abruptly into the canal's depths, and crappie can suspend against them. Here, though, the fish may be found at greater depth than they are along the shorelines, so don't hesitate to speculate your enticer a little deeper if shallow efforts are unsuccessful.

Another form of productive structure which is occasionally found in canals is water hyacinths. These invasive floating plants form mats extending from the shoreline out past the drop-off, and they serve as home for a variety of prey. They also create shade, and during the warm months, the water beneath the mat can be several degrees cooler than what is out in the sunlight. All that creates a crappie hang-out of the first order. Working your jig-and-float rig around the mat's perimeter—now with the jig set no more than a foot deep—can lead to memorable action.

Canal crappie will strike a variety of enticers. In my experiences the most radical have been a fly-rod popper and a crawfish-colored quarter-ounce fat-bodied rattling crankbait. Most of them are taken on small jigs dressed with soft-plastic tails about one and a half inches long and in

Catch Some Crappie!

While crappie can be found in virtually any low-salinity oil-field canal, large complexes of these waterways offer more opportunities. Southeast of New Orleans at the end of LA. 23 is the Venice Dome. The canals on the east side of this field are best for crappie and are best accessed from the Venice Marina (985/534-9357). Southwest of New Orleans in the Salvador Wildlife Management Area is the Bayou Couba field. These canals are easily reached from Bayou Segnette State Park (504/736-7140) in the Westbank suburb of Westwego.

The Bayou Black Marina (985/575-2315) at Gibson on old US. 90 west of Houma offers access to several canal complexes east of Gibson and in an area bounded by the Intercoastal Canal to the north, Bayou Copasaw to the east, and Bayou Penchant to the west and south. The Bayou Sale ("Sally") field west of Morgan City lies just east of LA. 317 and can be accessed from a public ramp on the Atchafalaya River's Wax Lake Outlet next to the US. 90 bridge or by a secluded ramp off LA. 317 near the Intercoastal Canal bridge. Contact Boone's Chevron Station at Bayou Sale (337/836-5580) for directions and bait.

Photo by Eric Engbretson/USFWS

either tube or shad configuration. The fish are not especially picky in their color preferences, but a variety of colors will allow for better coping with different light and water-clarity conditions. Chartreuse and white, and orange and purple, are proven combinations.

Minnows are an excellent enticer and can be a day-saver when the water is dirty. Shiners can be bought at some bait and tackle shops, but their availability is often questionable. A variety of killifish, which are sold for tempting reds and specks in nearby salty areas, are more common, and the smaller ones are eagerly taken by crappie.

Generally, though, a better way to ensure live bait is to collect it yourself. There are numerous drainage ditches across coastal Louisiana, some of which are immediately adjacent to or are crossed by streets and highways. These waters are commonly inhabited by a creature locally known as a "ditch minnow," resembling a baby bluegill and relished by crappie. They should be acquired on the day before a trip by baiting a standard minnow trap with shrimp heads and then placing the trap on the bottom of the ditch. Several gala festivities can then be enjoyed while you are collecting your supply of them. Indeed, an old friend once looked forward to the "launching of the minnow traps" as much as he did to fishing.

Photo by Pete Cooper Jr.

Photo courtesy of Pete Cooper Jr.

One note concerning tackle. During the cool months, which is a favorite time to fish for south Louisiana's canal crappie, in many areas there is a distinct possibility for a run-in with redfish. Those can get pretty big, they don't mind freshwater a bit and they will eat a mini-jig or a ditch minnow in a heartbeat! Therefore it is recommended that you forget about any ultralight tackle and use an outfit that has a reel with a decent drag. I use a fairly stiff eight-and-a-half-foot graphite fly rod, a 12-pound fluorocarbon leader, and a reel with a very good drag. Take heed!

Finally when you announce your intentions or seek directions at the bait shop or the marina, don't say you are going crappie or white perch fishing—no one will know what you are talking about. Instead, just say you are going to try to catch a mess of sac-a-lait. Then the guys will understand you perfectly!

March and April are prime times to fish for sac-a-lait, and canals provide a fine opportunity for this south Louisiana favorite.

Both white and black crappie are present in many south Louisiana canals, and they grow to appreciable sizes.

Recognized as a pioneer of saltwater fly-fishing in Louisiana, Pete Cooper Jr. is the author of Fly Fishing the Louisiana Coast. He is a member of the Louisiana Sportsman's Hall of Fame and has been a regular contributor to Louisiana Conservationist since 1996.

WEEVILS VS. GIANT SALVINIA

A Story of Success at Toledo Bend

Story and Photos by ***Jim* HYDE, Ph.D.**

Can a little weevil the size of a pinhead rescue Louisiana's fresh waters from one of their greatest threats, giant salvinia? Since its discovery on Toledo Bend in 1998, state and federal aquatic plant workers have been trying desperately to downgrade the status of this malignant fern to "just another aquatic plant." With the weevil's help, that goal may now be within reach.

Salvinia molesta has been called "the most dangerous plant in the world." Its explosive growth rate enables it to quickly inundate virtually any slow-moving body of fresh water in tropical and temperate climates. One small plant, consisting of two thumbnail-sized leaves and dangling rootlets, is said to be capable of multiplying under optimum conditions to cover several square miles in as little as three months. Giant salvinia can form thick mats which, by exclusion of sunlight, prevent growth of oxygenating plants and algae in the water. Areas of solid coverage are, therefore, uninhabitable by fish.

Understandably, its appearance on one of the nation's largest fishing and recreation lakes, Toledo Bend Reservoir, precipitated near panic among U.S. aquatic plant experts, who viewed the popular lake as a likely springboard for the infestation of United States inland waters. Coastal areas are generally spared because of salvinia's intolerance to salt water. Little was known in the U.S. about this aggressive, non-native plant, and the American Plant Type Collection was lacking a specimen of it, a niche soon filled by a sample from Toledo Bend.

The Salvinia Task Force, a multi-state group of aquatic plant workers, was promptly formed by federal and state agencies, and during the winter months, while the salvinia was relatively dormant, an action plan was devised in hope of containing and possibly eradicating the weed early in the approaching growing season. Eradication had been accomplished in several small ponds in other states, but this was unrealistic for Toledo Bend because of its sheer size (186,000 acres), coupled with the fact that the rapidly-proliferating *S. molesta* had already been dispersed by winds and currents into remote reaches of the reservoir. Instead of eradication of the plant, we were facing a long-term struggle with it.

The following options were open to the Task Force: (1) no action (a "wait-and-see" approach), (2) physical removal, (3) treatment with chemicals and (4) biological control. The only practical countermeasures appeared to be treatment with chemicals and the use of biological control, if suitable chemicals and control organisms could be found.

Application of an EPA approved aquatic herbicide diquat, under the trade name Reward, yielded excellent results in small areas, but it was impossible to apply this broad spectrum herbicide effectively and discriminately over the huge reservoir with its countless, virtually inaccessible coves. Thanks to quick action by the governor and the Louisiana Legislature, the herbicide was stockpiled by the Aquatic Plant Division of the Louisiana Department of Wildlife and Fisheries (LDWF) and was used for small, especially troublesome infestations as long as the supply lasted.

ENTER THE WEEVIL

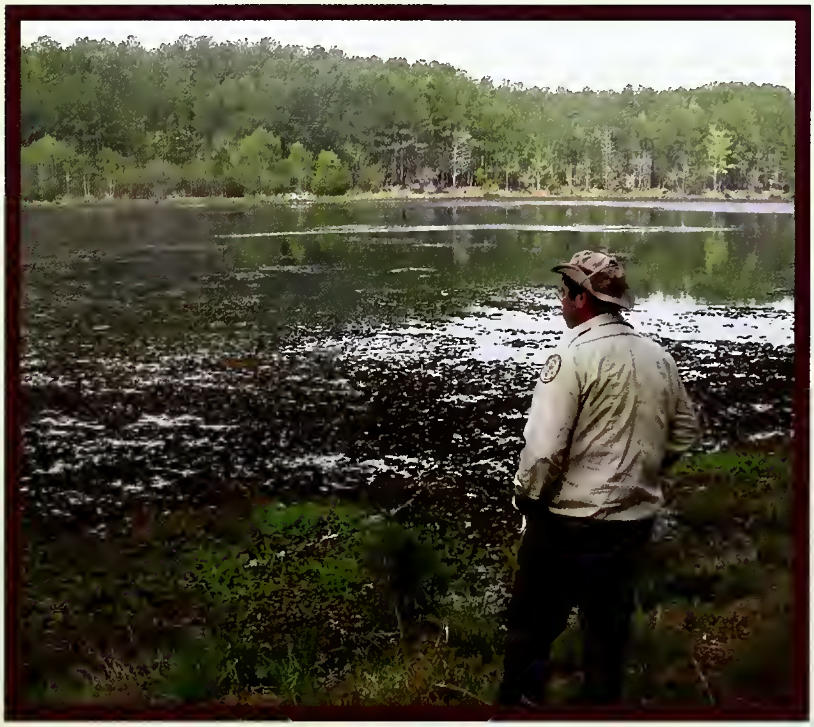
Prof. D. S. Mitchell, who gave *Salvinia molesta* its name, visited Toledo Bend in July 1999. He stressed the fact that *Cyrtobagous salviniae,* a parasitic weevil of giant salvinia, had proven in a number of countries to be the most effective means of keeping the plant in check without tremendous expenditure in man-hours, herbicides and equipment. The tiny weevil, however, was not native to North America. Therefore, prior to introducing it into the United States for salvinia control, it was necessary to determine (through a usually lengthy process) that it would not attack native North American plants in addition to its host, giant salvinia.

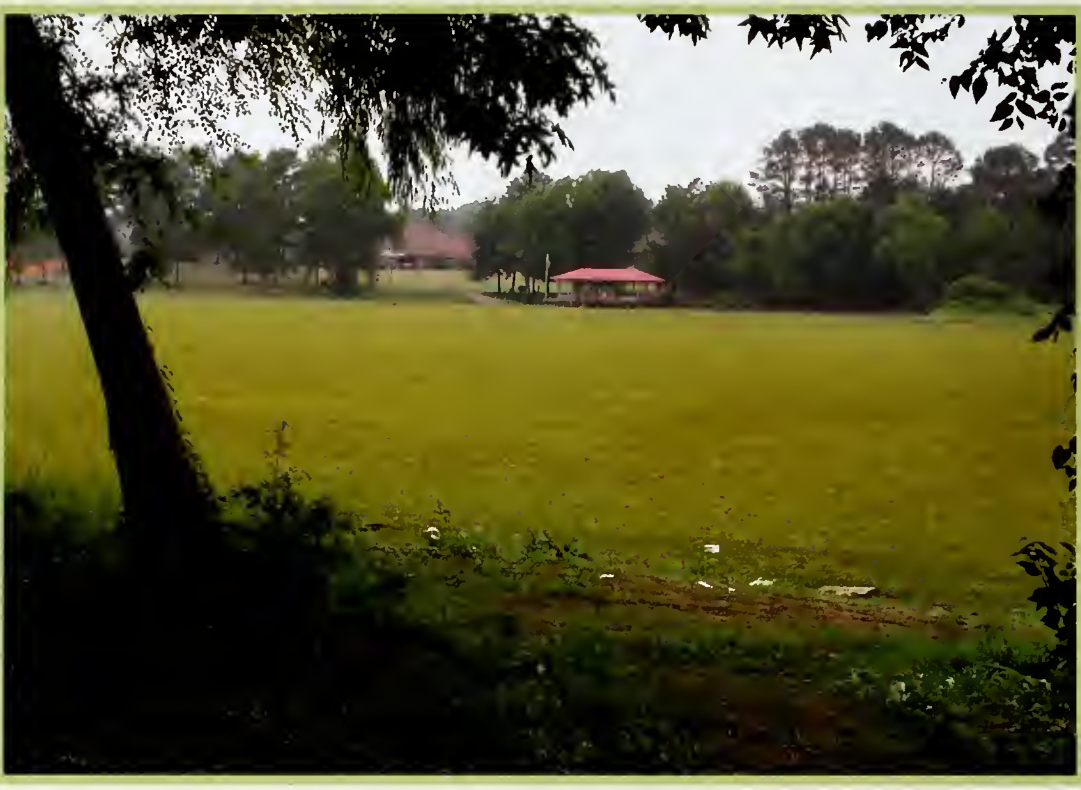
There was also the question of how the foreign weevils would fare during our occasional subfreezing winter tempera-

Opposite page, left to right: The pinhead-sized weevil (*Cyrtobagous salviniae*) standing on the eggbeater-shaped hairs of *S. molesta* leaf.

The large borrow pit below Toledo Bend dam is shown covered with a solid mat of *S. molesta.* This mat was innoculated with weevils in December 2003.

Below, the same borrow pit shown on opposite page, 16 months after innoculation with weevils. LDWF employee Randy Yopp views major clearance of salvinia.





Solid coverage of giant salvinia on San Miguel bay almost looks like a lawn or golf course fairway. In the background stands a large house with a now useless boathouse. This area has been seeded with weevils.

tures. Faced with such potential delays, we tried instead a cyrtobagous weevil from Florida, that was parasitic on *Salvinia minima* (common salvinia), a first cousin to giant salvinia. Naturally varying lake levels, however, doomed these first trials by Dr. Ted Center and Tracey Davern (USDA-ARS) to failure.

CYPRESS BEND RESORT

The introduction of Australian *Cyrtobagous salviniae* proved less time-consuming than anticipated, because its host specificity had already been studied rather extensively. While weevils were being reared in sufficient numbers for field trials, suitable testing sites for them had to be found. Three factors were required: a confluent growth of giant salvinia, easy accessibility to the site and a fairly constant water level. Fulfillment of the third requirement was crucial, for fluctuation of a few feet meant that the site might either lose its water entirely, or that rapidly rising water might result in dispersal of the plant over a wide area.

One site on the Louisiana shore of Toledo Bend was found to be ideal: a pond next to the entrance drive of Cypress Bend Golf Course and Resort. The pond is connected to the reservoir only by a drainpipe, which enables its water level to remain independent of the reservoir level. Cypress Bend authorities kindly agreed to this use of the pond, because treatment with herbicides in order to maintain its attractiveness as part of the picturesque entrance to the resort had become frequent and costly. Some salvinia always survived treatment to overgrow the pond again. The infestation became so severe that at its height even the resident alligator fled the pond.

WEEVIL SUCCESS STORY

The extreme western one-third of the pond, to be used as the weevil experimental area, was partitioned off by a boom, while the remainder of the pond fronting on the entrance road served as a "control" where weevil-free salvinia could be readily compared with weevil-infested salvinia in the experimental area. Dr. Philip Tipping (USDA-ARS, Gainesville, Fl.), with the help of the Texas Parks and Wildlife Department (TPWD) and the Sabine River Authority (SRA) released 220 *C. salviniae* adult weevils there on Oct. 10, 2001, in a one-square-meter plot delineated by PVC pipe.

The weevils in and around the plot were counted monthly to monitor their rate of reproduction and their migration onto the

If you see this plant, please report it to LDWF Inland Fisheries at 225/765-2327. For more information on giant salvinia at Toledo Bend, see the March/April 1999 issue of Louisiana Conservationist.

Look for a future story on LDWF's efforts to protect Louisiana' s waters from giant salvinia's cousin, common salvinia.

salvinia mat away from the point of release. The weight of salvinia within the plot and the damage incurred by its terminal buds, which are the weevil's favorite lunch and the plant's primary means of reproduction, were also assessed during each monthly visit.

The weevils did multiply as expected and they survived below-freezing winter temperatures (17° F). Migration of the weevils beyond the test square was evidenced by streaks of browning in a spoke-like pattern radiating outward from the release point. It should be noted that the weevils are able to fly for short distances.

As the weevil population increased, a gradual decrease of *S. molesta* was observed, first within the test square and then throughout the entire experimental end of the pond. The decline continued until mid-October 2003, when no salvinia could be found in the test area. The "control" end of the pond, however, which had not been seeded with weevils, still exhibited a solid mat of the weed as well as an increase in weevils that had moved in from the test area, and had begun to reproduce.

The salvinia and the weevils went into dormancy with the onset of winter, which brought heavy rainfall. Most of the salvinia in the "control" end of the pond, which was now loaded with weevils, was flushed through the drainpipe into Toledo Bend, thus naturally seeding the reservoir with weevils.

Although the experiment at Cypress Bend was an unqualified success, it should be noted that the pond was initially covered totally by *S. molesta*, which provided the multiplying weevils ready access to new, healthy plants. Conditions in the reservoir are much different, because pockets of dense salvinia coverage are widely dispersed throughout its 70-mile length, depending on prevailing wind and current. Approximately two years were required under the excellent, stable conditions of the pond for the weevils to bring giant salvinia under control.

THE FUTURE

The availability of weevil-infested *S. molesta* enabled the direct transplant of cyrtobagous weevils from the Cypress Bend Resort pond to other locations on Toledo

Phil Tipping, Melissa Martin and Ray Linderman check damage to salvinia in Cypress Bend pond seven months after seeding with weevils. The browning visible in the plants is an indication of weevil action.

Bend, including a large borrow pit (bar pit) immediately below the dam. This 11-acre pond is in a position to further disseminate cyrtobagous as weevil-infested salvinia is washed out during heavy rains into the Sabine basin wilderness. The borrow pit weevil seeding, in addition to confirming the efficacy of the weevils, has provided much more cyrtobagous infested salvinia, which is used to introduce weevils into many parts of the reservoir.

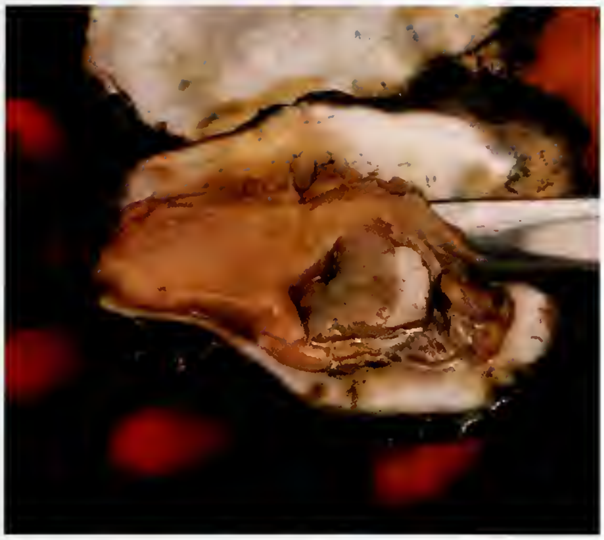
In addition to these transplantations, approximately 12,000 weevils on salvinia obtained from Dr. Dan Flores (USDA-APHIS-PPQ, Edinburg, Texas), were set out at salvinia problem spots along the entire Louisiana shoreline. A recent survey by Dr. Seth Johnson and Dr. Dearl Sanders (L.S.U. Ag.) showed cyrtobagous to be widespread now on *Salvinia molesta* in Toledo Bend, indicating that the weevils have probably reached a sustainable population. Although the weevils' effects are seen in numerous places, it is obvious that they are not a "quick fix" to the giant salvinia problem.

Further successes with weevils have occurred in Texas, where salvinia is found in a number of areas other than Toledo Bend. Although it is too soon to know with certainty, indications are that the serious threat of *Salvinia molesta* may soon be over, thanks to the little weevil, *Cyrtobagous salviniae.*

Jim Hyde has a Ph.D. in microbiology and is a former employee of the Sabine River Authority. His family has owned a camp on Toledo Bend since 1968 and he has lived on the lake since 1985. He is the co-author of "The Invasion of Giant Salvinia on Toledo Bend," which can be found in the March/April 1999 issue of Louisiana Conservationist.

Salvinia molesta **once obliterated the Cypress Bend entrance pond. Periodic treatments with herbicide failed to control the salvinia, and secondary growth of weeds exacerbated the problem. The pond is shown here in fall of 2002, nearly clear of all salvinia.**

SPECIES PROFILE: OYSTERS



LDWF File Photo

Oysters have long been a staple of the American diet and can be eaten cold on the half shell, fried, baked and used in casseroles and soups. Most of the oysters consumed in the U.S. are American oysters (*Crassostrea virginica*) or, as they are sometimes called, Eastern oysters. These oysters can be found from the Gulf of Mexico and along the Atlantic coast as far north as the Gulf of St. Lawrence, Canada.

American oysters come from the *Ostreidae* family of mollusks and have bivalves (two shells) hinged together by a thick, strong muscle. The outer shell is a grayish white color and the interior shell is white with a purplish stain. The lower valve is the shell that cements itself to a hard substrate surface and is noticeably thicker than the smaller and flatter top shell.

In Louisiana, American oysters are found in the estuarine environment, which is the area where fresh and salt water mix. Within Louisiana's estuaries, oysters thrive in both intertidal (area between high and low tide) and subtidal (area below low tide) habitats although the majority of oyster beds in the state are subtidal.

Louisiana produces over a third of the world's oyster supply and began leasing state water bottoms to public citizens in the early part of the 20th century for the raising and farming of oysters. The state also manages over 1.6 million acres of water bottoms for public seed grounds where licensed fishermen can harvest seed oysters (smaller than three inches) for use on their private leases or sack oysters (equal to or bigger than three inches) that can be taken directly to market during the open season.

Oysters spawn in Louisiana from April to October when the water temperature is above 68 degrees. Males initiate the spawning process by ejecting sperm into the water, which then triggers the females to cast out millions of eggs. This method of reproduction is called "broadcast spawning." Fertilized eggs will hatch into larvae about six hours later and remain as larvae in several different stages for two to three weeks.

The larvae move vertically by rising and dropping with the tides, which keeps them from washing out to sea. During the last larval stage, the oyster develops a primitive eye and a foot that it uses to crawl on the bottom while looking for a place to attach to a hard, clean surface. Oysters can spawn multiple times in a season and can live upwards of 20 years (although this is quite rare).

Suitable attachment sites can be other living oysters, oyster shells, rocks, docks, pilings and glass bottles. Oysters are called "spat" after they attach to a surface and metamorphose. Once the larvae metamorphose into spat, the tiny oysters stay and grow in the same location for the rest of their lives, forming oyster reefs or bars. Larvae that find suitable substrate, water quality and food have a good chance for survival.

Favorable salinity levels for survival in Louisiana should be between five and 15 parts per thousand (ppt). Salinities less than five ppt are too fresh for oysters and salinities above 15 ppt yield an increase in predators that use oysters as a food source. For optimum growth, reproduction and survival, oysters need water temperatures between 68 and 86 degrees. Oysters eat by filtering small pieces of food out of water through their gills, which then supply oxygen by removing the carbon dioxide.

Oysters, which are available year-round, reach market size when they grow over three inches long. In Louisiana, oysters are usually longer than an inch after three months, longer than two inches after a year and longer than three inches after two years in normal conditions. Predators of the oyster are oyster drill snails, sea stars, oyster leech, finfish such as black drum, and birds such as the oystercatcher.

Katrina and Rita's Effects on the Louisiana Oyster Harvest

Louisiana's oyster industry took a considerable setback from hurricanes Katrina and Rita, which was estimated by Louisiana Department of Wildlife and Fisheries (LDWF) biologists to cut the state's oyster harvest in half from the 13.9 million pounds of oyster meat landed in 2004. The hurricanes damaged the oyster infrastructure including docks, vessels, transportation and markets, and decreased the availability of oysters.

According to biologists, both storms caused massive oyster mortality in many areas by physically burying the oysters and creating low oxygen levels from decaying submerged vegetation. Surveys on the public reefs indicated that areas east of the Mississippi River were hardest hit with a 40 to 80 percent mortality rate. The highest oyster mortalities were observed in Lake Borgne and Eastern California Bay.

Recovering the oyster population may take up to five years provided favorable environmental conditions exist. These conditions could be enhanced with increased fresh water diversions said LDWF biologists.

LDWF and the Louisiana Department of Health and Hospitals continue to monitor the public oyster resources, water quality and oyster habitat to hasten the return to pre-hurricane oyster harvest levels.

Behind the Scenes

Photo by Thomas Gresham

LDWF File Photo

Photo by Thomas Gresham

The Role of LDWF Public Information

Story by
Marianne BURKE

The mission of the Louisiana Department of Wildlife and Fisheries (LDWF) is to manage, conserve and promote wise utilization of Louisiana's renewable fish and wildlife resources. To accomplish this mission it must employ a variety of workers including the best-known titles of biologists, enforcement agents, licensing wizards and clerical assistants. These positions are well known because they are the most visible to the public. However, there is a small group who works behind the scenes and is seldom seen, ensuring the department's mission is known and its message heard. It is the Public Information Office.

Public Information (PI) is the group of employees who produce the magazine you are holding, the fishing regulation book you recently picked up at the sporting goods store, and the video footage you saw on the local news last night. They are the men and women who contact the media with breaking LDWF news, and they are usually the first points of contact when the public or media need information. They are editors, writers, reporters, graphic designers, video producers, coordinators, photographers, field hands, managers, librarians and receptionists. The number of hats the staff wears is often greater than the number of actual employees.

The PI office consists of nine creative employees who work with six programs: *Louisiana Conservationist* magazine, news and media relations, publications, audio-video productions, special events and public resource library. Although each of the nine employees has a specific duty, together they produce some of the most visible products of LDWF.

Let's start with the magazine you are reading. *Louisiana Conservationist* magazine (LCM) is the flagship publication of the department. It began in 1923 as a small black and white informational booklet and has grown to the full color version you are accustomed to reading. Producing a magazine of this caliber is a difficult task, requiring several months of preparation for just one issue.

It begins with selecting story ideas for several issues in advance, assigning topics and deadlines to professional writers and photographers, reviewing all submissions, stories and photographs for quality and accuracy, proofing over and over again, and finally putting it together in an eye pleasing design. The stories and photographs are "poured" into a graphic design software that allows the editor to layout or see the magazine as it would appear in its final form. Color themes are chosen, photographs are sized, and another proof is completed before sending it to the press. From that point, the magazine undergoes several more press proofs before a final copy is presented to our subscribers. The final product is a 36-page, full color publication filled with information on Louisiana's natural resources. The editor then begins the process again for the next issue.

Regarding publications, the PI staff is the force behind most of LDWF's printings. From books to regulation pamphlets to flyers and posters, they are the creative group that designs and produces the final product. Not unlike *Louisiana Conservationist*, all LDWF publications require several months of preparation. The hunting and fishing regulations require a minimum of six months of preparation before distribution to the public. It begins with the biologists who research and prepare the information. Once it is approved by the proper authorities and experts, it is then forwarded to the PI office. Again, not unlike LCM, the hunting and recreational fishing regulations undergo many, many proofs and revisions before going to press. For that matter, all regulation publications, both recreational and commercial, undergo many, many proofs and revisions before going to press. It doesn't matter if it is a 66-page fishing pamphlet or a one-page, trifold hunting pamphlet, the publication is constantly reviewed for accuracy.

The staff members who work primarily with publications are the "designers" of LDWF's printed materials. When LDWF needs a new brochure, poster, flyer or any form of promotional publication, the Public Information staff designs it. The information is submitted in a simple report form, such as MS Word or WordPerfect, and from there the staff turns it into the proper design, based on the targeted audience. Sometimes that is a full color, glossy publication with photographs and sometimes it is a simple design on a single sheet of paper.

As mentioned earlier, publications are not all the PI office handles. News and media relations are a large part of the office activities. This program coordinates and facilitates media contacts for LDWF personnel, including press conferences, interviews, special appearances, editorial responses and specialized information campaigns. The program distributes an electronic news package each week, averaging 348 news releases per year, reaching approximately 200 media outlets with each release. They also receive an average of five media inquiries per week, ranging from requests for general information to photographs and digital images.

Photo by Thomas Gresham

Producing most of LDWF's printed materials, Public Information employees spend countless hours designing and proofing copy.

Photo by Thomas Gresham

As our name suggests, Public Information is often the first point of contact with the media and the general public, whether it be by phone, email, or in person at public meetings and expos across the state.

A/V staff are often called to the field to produce departmental videos and video news releases. At right, a Public Information employee shoots footage of Hurricane Katrina rescue operations.

Photo by Adam Einck

Special media events are also the responsibility of the news and media relations program. Examples of these events include press conferences, ceremonies and special tours, and each event requires detailed planning and organized coordination. These events often take place outdoors, but locations vary from LDWF headquarters to coastal boat launches to various wildlife management areas. Responsibilities for duties such as press releases, media kits, invitations, audio-video equipment and transportation are funneled through the news and media relations program.

A day in the life of a Public Information staff member can vary so widely that it is hard to explain what a normal day would include. Each PI staff member has specific responsibilities, but their roles often interweave within the six programs. When the magazine needs proofing, the editor requests help from the publications and news programs. When the news team organizes a press conference, they request help from the publications, audio-video and special events programs. All PI programs are interlinked, relying on the assistance of the other five.

A very good example of how the programs work together is with audio-video productions, a unique program for our agency. LDWF is one of the few Louisiana state agencies that have the capabilities of producing audio-video productions, ranging from two-minute video news releases to 30 minute DVD presentations. The A/V program has been in existence since the department's television show in the 1980s. After the show finished, the A/V program continued, producing educational materials for agency and public use. Through the years it has adapted to current electronic trends including the use of video news releases, CDs and DVDs.

When the Public Information Office is asked to create a video, more than one PI program gets involved. The news and media relations, and publications staff are always on call for an A/V production. Filming in the field requires assistance with cameras and lights; interviews and photography shoots are scheduled and coordinated; and scripts are written and proofed. When everything has been filmed and written, the A/V manager begins the editing process.

Some of LDWF's video productions have received recognition through the years. Two that come to mind are the "Sunset 2002" and "Katrina and Rita" videos. The "Sunset 2002" video is a 19-minute production that outlines the department's activities beginning from its conception in the early 1900s. The second one is a compilation of images from hurricanes Katrina and Rita. This five minute production contains images taken by LDWF employees during the aftermath of both hurricanes. Most videos produced by LDWF can be obtained through the LDWF library.

Special events organized by the Public Information Office include those that involve the public, such as the National Hunting and Fishing Day Celebration in Baton Rouge, Green Wing Day with Ducks Unlimited, LDWF-hosted conferences, trade shows, fairs and festivals.

The news and media relations staff release an average of 348 news releases per year and reach approximately 200 media outlets with each release. For LDWF news updates, visit our Web site at *www.wlf.louisiana.gov.*

Photo by Thomas Gresham

Other events in the program might include promotional and public relations events staged to highlight new LDWF programs. A few years ago LDWF kicked off a new program to promote the use of nutria meat in restaurants. The PI staff worked with the LDWF employees handling the program and organized a tasting fair. It was called the "Louisiana Cuisine Extravaganza" and included 12 professional chefs and their nutria recipes, and an invitation to all interested media. Held in the Louisiana Room at LDWF headquarters, it was a huge success with media coverage from across the state plus attendance from the governor's office and the legislature's natural resource committees.

Last, but not least of the programs is the LDWF public resource library. This small office works behind the scenes interacting anonymously with thousands of Louisiana citizens every year. Located at headquarters in Baton Rouge, it offers a great opportunity to browse through various information sources related to natural resource conservation. Available materials include *Louisiana Conservationist*, wildlife management area maps, historic books and documents, regulation pamphlets, posters and a selection of VHS videos available for loan. It also houses a small archive of historical publications, including past *Louisiana Conservationist* issues starting in the 1930s. Matter of fact, during the course of a year the library and the reception desk (an extension of the library) encounter approximately 20,000 visitors by phone, e-mail, USPS mail and personal one-on-one interaction. It is a well-known and well-utilized source of information among teachers and students.

The tasks and responsibilities of the Public Information Office mentioned in this article take place, for the most part, within the limited space of an office. However, many times the staff members are in the field with biologists, agents and technicians researching and documenting information for a story, video or publication they have been assigned. Even with today's internet access, it is still necessary to experience it first hand to get the best story. Sometimes that means sitting in a duck blind at 5:00 a.m. in the cold, wet weather with a hunting guide, or hiking through muddy trails following a biologist relocating a mother bear and cubs, or enduring hurricane force winds and rising waters as they accompany LDWF enforcement agents during search and rescue operations. Experiences such as these cannot be explained or experienced through the internet.

Working behind the scenes on LDWF's public image is what the Public Information Office proudly does. Their mission is to inform and educate the public on the state's wildlife resources and help them become more knowledgeable, responsible stewards. Through these six informational programs, the Public Information Office is accomplishing its mission, and quietly aiding with the larger mission of the Department of Wildlife and Fisheries.

Marianne Burke is the LDWF Public Information Director and an 18-year veteran of Wildlife and Fisheries.

Photo by Joel Courtney

The LDWF library in Baton Rouge is full of resources for outdoor enthusiasts, such as maps, posters, books and more. It is open Monday through Friday from 8:00 a.m. to 4:30 p.m. For more information, call 225/765-2918.

Want to be part of the Wildlife and Fisheries team?

For more information on employment opportunities with theLouisiana Department of Wildlife and Fisheries, visit *www.civilservice.louisiana.gov.*

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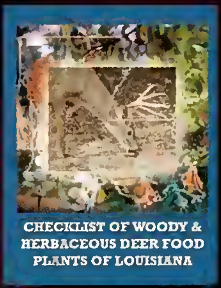
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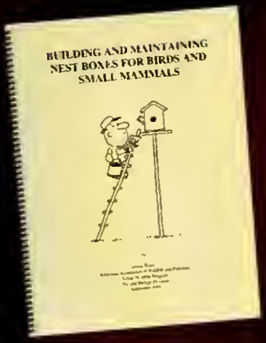
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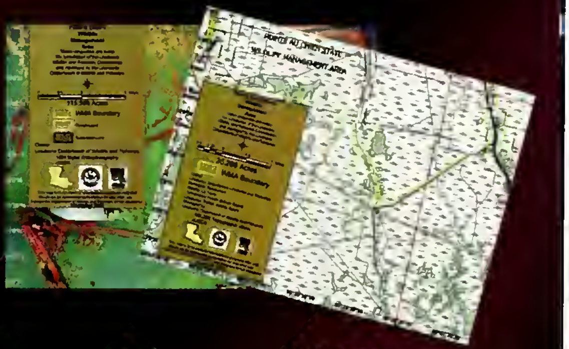

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AGENTS OF *Change*

the evolving role of wildlife and fisheries enforcement agents

Hunting Season for a Wildlife Agent

By Sgt. Russ Kiser

A day in the field for a Louisiana Department of Wildlife and Fisheries Enforcement Division agent is not only hectic, but also unpredictable, especially during hunting season. There is a wide variety of activities in which agents must check for compliance: we check hunters for the proper licenses, enforce the rules and regulations on our wildlife management areas (WMAs), work investigations involving illegal night hunting, and answer a vast array of complaint calls. The tasks that agents face on a daily basis make for a demanding but rewarding lifestyle.

Beginning the first of September, with the opening of dove and alligator seasons until the conclusion of rabbit and squirrel seasons at the end of February, the life of an agent is a busy one. Patrolling an entire parish, sometimes more, including state WMAs day and night, can make the task of handling deer season alone a challenge. So when the hunting season includes duck, dove, squirrel and rabbit seasons all at once, a whole new array of challenges present themselves. One day I may work deer hunters during the morning and then work late shooting for ducks that evening. I might spend the next day working small game hunters in the morning and then be back out that night to work illegal night hunting. The combinations are endless. Since most parishes average only two agents, an agent usually has a large area to patrol. To meet this responsibility, an agent not only needs a good knowledge of the land in the parish which he works but probably even more importantly, needs to know and earn the trust of the people in his community and surrounding areas.

Agents are on call 24 hours a day, seven days a week and spend countless hours addressing the numerous complaints received during the course of the season. Calls vary from complaints about taking over the limit of ducks to night hunting. Agents also often work alongside other law enforcement agencies in performing search and rescue operations for missing hunters or boaters.

Agents are responsible for patrolling the state's wildlife management areas, in addition to private lands. With thousands of hunters a year visiting our WMAs, patrolling them is a demanding and constant task. For example, the either sex hunt alone, which generally takes place over the Thanksgiving weekend, attracts on average between 2,000 and 2,500 hunters in my area. I work in Concordia Parish, which has more than 70,000 acres of WMA lands. That's a lot of licenses and bag limits to check, regulations to track, and questions and calls from citizens to address.

An agent faces different challenges on a daily basis and puts in many long days and nights to meet them. We are police officers, just like any other law enforcement officer in Louisiana, but our patrol area is truly unlike any other.

Most agents I know will tell you that the love of the outdoors and hunting plays a large role in deciding to enter this profession. I have been a wildlife agent for eight years. It's true that this job at times inhibits my opportunities to get out in the woods and do a little hunting for myself. But what this profession does enable me to do is meet a lot of good people. More than 90 percent of the hunters I come in contact with throughout the year are good law-abiding people who share the same love for hunting as I have. On the other hand, there is that small percent that doesn't care about conservation, the law or the wildlife they are stealing from future generations.

This profession is definitely a rewarding one; however, working long and odd hours to meet its demands can put a strain on personal time in the woods and on family life. In the end, helping to ensure that our children will have the same opportunities that we have to hunt and enjoy the natural resources of this great state makes it all worthwhile.

THISTLETHWAITE WMA

Thistlethwaite Wildlife Management Area (WMA) is located on the outer edges of the Atchafalaya Basin in north central St. Landry Parish, about three miles northeast of Washington off of La. Hwy. 10. It consists of approximately 11,000 acres and is owned by the Thistlethwaite heirs.

Convenient access to virtually the entire WMA is provided by 17 miles of maintained all-weather shell roads and nearly 11 miles of wood trails maintained for hunters, hikers and wildlife watchers.

The terrain is generally flat bottomland and has a north to south slope. Due to slow drainage, standing water will accumulate for considerable periods after heavy rains.

The most common tree species are willow oak, overcup oak, white oak, cherrybark oak, Nuttall's oak, cow oak and post oak. Additionally, one can find hickory, sweet pecan, bitter pecan, hackberry, sweet gum, ash, elm and maple trees. The lower parts of the WMA contain cypress and tupelo gum trees. Selective timber cuttings have enhanced a natural understory of dogwood, redbud, spice bush, French mulberry, greenbriar, rattan, blackberry, Japanese honeysuckle and wild lettuce.

Game species include deer, turkey, squirrel, rabbit, wood duck and woodcock. The deer herd is thriving and is considered healthy, as evidenced by the many trophy bucks taken by hunters on Thistlethwaite WMA. Trapping is also permitted on Thistlethwaite. Furbearing species found on this WMA are beaver, raccoon, mink, bobcat, otter and opossum.

Bird watching opportunities are also prevalent on Thistlethwaite, and people can see hawks, owls and woodpeckers there. In the spring, watch for vireos and warblers of several varieties: prothonotary, black and white, hooded, yellow-throated and northern parula. In the winter, white-throated, swamp and song sparrows can be expected. Furthermore, look for indigo and painted buntings on the edges of pipelines and road rights of way.

A nature trail leads to Foy Lake, which is a small woods lake that provides natural habitat for egret rookeries and nesting wood ducks. The trail is located off the end of the Rice Field road.

The landowner does not allow camping on the property. However, non-consumptive activities do include nature walks and nature studies by various civic organizations, schools and the public. Self-clearing permits are required for all activities on the WMA.

La. Hwy 10, which intersects U.S. Hwy. 71 at LeBeau and U.S. Hwy. 167 near Opelousas, is the primary access to Thistlethwaite WMA. If coming from Interstate 49, take the LeBeau exit to La. Hwy. 10.

Photo by Patti Faulkner

LDWF ENFORCEMENT AGENT ZECHENELLY GOES GLAM

GLAMOUR MAGAZINE HONORED a Louisiana Department of Wildlife and Fisheries Enforcement Division agent as one of their "2005 Women of the Year" at a ceremony on Nov. 2 in New York City.

Sgt. Rachel Zechenelly, 35, who has been an enforcement agent since 1999, was selected by *Glamour* for her efforts during the search and rescue missions in the New Orleans area following Hurricane Katrina.

Zechenelly, who has been living in Baton Rouge after her apartment near New Orleans lost its roof, took shelter at the New Orleans Convention Center the night before Katrina came ashore.

Zechenelly proved to be a valuable asset with her knowledge of the city in helping LDWF save over 21,000 people, as she was able to direct agents to where people needed the most help. "I started finding passable routes to get our boats and trucks to locations such as the Ninth Ward," she said.

Glamour paid for the entire trip that lasted from Nov. 1 to Nov. 6 for Zechenelly and her sister. The trip included round trip first-class airfare, accommodations at the Trump International Hotel and a private dinner at the restaurant Shun Lee hosted by Catherine Zeta-Jones.

Zechenelly was able to meet Zeta-Jones, Venus Williams, Christiane Amanpour, Goldie Hawn and Melissa Etheridge, who were also honored as women of the year.

Zechenelly said she was grateful for being able to represent this department at the awards ceremony. "Our department employs many incredible men and women who worked during the rescue efforts, so I felt honored to represent such an esteemed collection of people. It was difficult to be singled out knowing the other men and women in our department who ran into the storm instead of running away in order to help the survivors of Katrina."

2006 "LOUISIANA CLOSE-UP" CALENDARS NOW AVAILABLE AT REDUCED PRICE

THE 2006 *LOUISIANA Conservationist* Calendar "Louisiana Close-up" is now available at a reduced price.

This unique calendar, one of our favorites in years, features alluring images of Louisiana species captured up close taken by Louisiana photographers. As always, the calendar also highlights important dates for outdoor enthusiasts, such as peak migration times, season dates, license expirations and much much more.

The calendar makes a great gift and is now on sale. Originally sold for $8, you can get yours now for only $4 each.

Demand has been high and supplies are limited, so get your copy today. Call 225/765-2918 or send a request by email to *lcm@wlf.louisiana.gov*.

LDWF AND BBCC EMPLOYEES RECEIVE AWARD FOR VIDEO

Courtney and Gresham accept the award on behalf of the video production team.

JOEL COURTNEY, LDWF audio/visual production manager; Thomas Gresham, LDWF Public Information assistant director; and David Telesco of the Black Bear Conservation Committee (BBCC), were honored on behalf of the Natural Resources Conservation Service (NRCS), Ducks Unlimited, the U.S. Fish and Wildlife Service and the BBCC for producing the video, "Wetlands, Birds, and Bears: A Louisiana Happening," as part of a presentation to the White House Conference on Cooperative Conservation that focused on the partnership between landowners, state and federal governments and non-governmental organizations in the conservation of wetlands.

LDWF Project on West Pearl Benefits WMA and Slidell Area

The hurricane debris removal efforts of the Louisiana Department of Wildlife and Fisheries (LDWF) Resource Section will equally benefit the agency and property owners in southeast St. Tammany Parish.

Acres of wetlands in the Pearl River Wildlife Management Area (WMA) adjacent to the West Pearl River were moved by Hurricane Katrina's wind and storm surge into the main channel of the river. River navigation and the flow of water were blocked in what is a primary drainage artery for the parish. The debris mass, composed of trees, limbs and marsh vegetation, was also diverting water through the wildlife management area.

"I want to thank the Department of Wildlife and Fisheries for their assistance in this project," said St. Tammany Parish President Kevin Davis. "Many subdivisions east of Slidell depend upon the Pearl River basin for drainage. It is essential that the river be open and flowing to prevent home flooding when the spring rains start."

Pearl River WMA lost an estimated 80 percent of the canopy cover of its hardwood trees, according to Randy Myers, LDWF biologist manager. "I didn't recognize the area when I first flew over it," said Myers. "It had changed that much."

An estimated 35 thousand cubic yards of debris were removed from the West Pearl during the project that began Dec. 5. LDWF personnel moved an agency tugboat and crane into position and worked 10-hour shifts daily through Dec. 15 to clear the blockage in the river's main channel.

"We needed to clean the West Pearl as quickly as possible," said LDWF's Construction Manager Dennis Kropog. "The blockages were changing the hydrology of the area and the Pearl River was starting to re-channel."

Local Teen Donates Corn to LDWF Deer Study

Like most everyone else, Kellon Lee, a 14-year-old from St. Joseph, Louisiana, wanted to do something to help after hurricanes Katrina and Rita. As a dedicated hunter, he was concerned about deer throughout the region, suddenly threatened by flood waters and habitat destruction.

Kellon contacted the Louisiana Department of Wildlife and Fisheries (LDWF) for suggestions on how he could contribute to relief efforts. Since LDWF was already planning several research projects involving the status of deer populations following the hurricanes, Kellon decided to get corn donated for the project. The corn was to be used at various bait sites and cameras would provide information on deer populations.

All in all, Kellon collected an amazing 1,500 pounds of corn to be used in this research project. Kellon credits his success on assistance from his family, Golden Equipment in Waterproof, and local hunters in Tensas Parish.

For more information on how you can get involved in departmental projects and activities, look for future articles in *Louisiana Conservationist* and visit our Web site at *wlf.louisiana.gov*.

Along the Way . . .

Lost

By Pete Cooper Jr.

In June 1965, on a crew-boat ride through Joseph Bayou on the way to a drilling rig in East Bay, I saw two ducks jump from some nearby marsh. At the time I did not know they were mottled ducks and semi-residents, but as a young duck hunter of rapidly-increasing enthusiasm, I felt any place where ducks could be found during summer was noteworthy. Three years later and not in small part because of those two birds, I accepted a full-time job in Venice.

During the following year I hunted and fished frequently in the brackish and salt marshes behind Boothville, near Sandy Point, and adjacent to Red Pass. Back then those were expansive, though Hurricane Betsy had initiated a sequence of degradation in 1965 that I could not perceive and that would be shortly compounded. In 1969 Camille ripped through Boothville and flooded the parish above and below it. But the damage to the marsh seemed negligible to my uneducated eyes.

Recovery from Camille's wrath took less than a year, and for four years thereafter I lived a life that only an ardent hunter and fisherman could fully appreciate. The marsh behind Boothville continued to provide fine hunting for teal and gray ducks and would eventually grace me with the last precious days I would share with my father in my duckboat. It also offered some of the best fly fishing for reds imaginable—crystal clear water underlain by lush widgeongrass, and small ponds and sloughs that were protected from the wind by many hundreds of acres of spartina. And lots of redfish.

A vast duck potato flat that I soon discovered between Tante Phine and Tiger Passes near the seashore gave me my first good opportunity to hunt pintails, and I quickly developed a passion for pursuing the long white necks that would last a lifetime. Shallow ponds and small deep bayous within those flats held gangs of redfish besides abundant bass and a few huge blue catfish. Both areas were the sort of stuff that dreams are made of.

But in the spring of 1974 a very high river allowed water hyacinths to infest the potatoes. They multiplied quickly into large rafts that wind and tidal movement would sweep back and forth across the flats, breaking the plants down and eventually killing them. By 1977 there was little sign of what had so recently been such a lovely marsh—only broad, open water.

Around the same time the hyacinths appeared down the passes, a "hurricane buffer zone" was created between Empire and Venice. This was accomplished by dredging sand and silt from the river and pumping it into the marsh where it eventually created relatively solid ground extending a quarter-mile or so beyond the levee. It smothered my little paradise behind Boothville.

Still, it was a good plan, but the dredging of what was to become known as the Buras Canal was not. Dug for navigational purposes just outside the buffer zone, it allowed high-salinity water and strong tidal currents into sensitive interior areas that were previously unexposed to these erosive factors, and the adjacent marsh began to quickly degrade.

With the decreasing amount of spartina, the bayous, ponds and bays became broader. As they grew, wind-driven waves became correspondingly larger, washing away grass shorelines at an exponentially-increasing rate. Once the grass was gone, the shallows that formerly supported it were eroded into deeper water where the vegetation could not re-grow. Long before the turn of the century there was very little grass left between the Empire Navigation Channel and Bayou Grand Liard—a long-ago distributary of the river just above Fort Jackson.

The Chandeleur Islands, once such pristine and fish-rich venues, gradually eroded with time until the passing of Opal in 1995. Since then a progression of storms rendered them mere shadows of their former selves—some no longer exist as islands.

I adjusted to the changing Delta over the years. The loss of the grass behind Empire and Buras was indeed a detriment to redfishing, but there were other opportunities for them further down the river. Specks, though, still held to the oysters during the cool months. My duck hunting, on the other hand, became limited to down-river public lands and very infrequent.

I made what will probably be my last trip to my beloved Chandeleurs in early August last year. I have dear memories of them all: picture-perfect November afternoons at Grand Gosier with Capt. Bill, the first fly-caught bull red, and Capt. Bill's final services. Happy times, then quite sad ones, then happy again during the speck trips with the Venice guys in Aprils since. Now I'm not sure I ever want to go back—just remember it the way it was.

That's the way I would like to remember the entire Delta. I was truly blessed to have had it at its very best for so long. Nowhere, I am certain, could have come close to matching the duck hunting and fishing opportunities it once offered. But nature and the acts of man undid it. Levees stopped the natural accretion from the river, causing subsidence of the inhabited lands. Canals allowed saltwater intrusion into areas vulnerable to it, and crew-boat wakes washed away the banks of small passes, both degrading some of the most prime marshland habitat to be found in this country into open water. Finally, hurricanes pounded it all almost annually for a decade. And absolutely nothing concrete was done to create a deterrent against a storm's wrath since the construction of the buffer zone over a quarter of a century ago. Now it is lost—no, that is not quite right. It was lost long before the first swirl of air that was to conceive Katrina.

And it is our loss because of that.

This is Pete Cooper's final installment of "Along the Way." Thanks, Pete, for sharing your lessons with us.

LA Cuisine

THE LOUISIANA KITCHEN

Shrimp and Portobella Quesadilla

10	**31-35 count shrimp**
1	**Portobella mushroom cap**
1	**Flour or wheat tortilla**
3	**Tbsp. chili ancho paste (recipe follows)**
1/2	**c. grated American or Monterey Jack cheese**
1	**Tbsp. butter**

Heat butter in skillet for about 30 seconds. Add shrimp and portobella mushroom. Add chili ancho paste and cook on both sides for about three minutes or until shrimp are tender.

Heat tortilla on both sides over a flame or in a separate skillet. Add shrimp and portobella on half of the tortilla with cheese. Either microwave for one minute to melt the cheese or fold over in a skillet for about two minutes on each side. Once melted, garnish with guacamole, sour cream, lettuce, grated cheese, tomatoes and chives.

Photo by David Humphreys

Chili Ancho Paste

8	**Chili ancho**
1	**lg. white onion**
1	**c. cilantro**
3	**Tbsp. minced garlic**

Rehydrate chili ancho in hot water for at least an hour. Transfer the chilies to a blender with the onion, cilantro and the minced garlic. Add some water and blend. Will keep refrigerated for up to a week.

Guacamole

3	**Large Haas avocados**
1/2	**c. chopped white onion**
1/2	**c. tomatoes**

Optional: Salt, pepper, granulated garlic, Italian dressing, lime juice

Remove stem from the avocados and discard the seed. Scoop the avocados with a spoon in a bowl. Add chopped onions and tomatoes. Season with salt, black pepper and granulated garlic to taste. Mash with a potato masher.

Add a touch of Italian dressing for a little added flavor or squeeze one fresh lime for the juice. Serve immediately or refrigerate with a covered top to delay browning of the guacamole.

Recipes provided by Mestizo Louisiana-Mexican Restaurant in Baton Rouge. Look for their new Baton Rouge location coming this summer!

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